



Property Measurement

The van pictured is used by Land Inventory Systems, Inc., Newport, New Hampshire, to measure and map property for tax assessment purposes. A state law requires that all New Hampshire towns have tax maps and communities are looking for the most accurate property measurements attainable in order to maximize tax revenue. Specially designed to meet that need, Land Inventory's van employs technology adapted from the navigation system of the Lunar Rover, the wheeled vehicle in which moon-exploring astronauts traveled as much as 20 miles from their Lunar Module base.

The astronauts had to know their precise position relative to the Lunar Module at all times, so that in case of emergency they could take the shortest route back. The Lunar Rover's computerized navigation system kept a highly accurate record of the directional path and the distance traveled from the Lunar

Module, thus providing a continuous position report. The distance measuring subsystem was a sophisticated and far more accurate counterpart of the odometer on an automobile, which counts the revolutions of the wheels. Encoders on a wheel of the Lunar Rover generated electrical pulses for each fractional revolution and the computer analyzed the pulses to determine the distance traveled in a given direction.

The distance measuring technique is the portion of the Lunar Rover navigation system adapted to property measurement. Land Inventory's van has encoding equipment on the left rear wheel (see photo). The encoders generate 180 pulses for each revolution of the wheel and a computer inside the van translates the pulse data into distance traveled with an accuracy of one-half inch in 500 feet.